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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,459	04/02/2001	Takahiro Abe	06753.0439	8959

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EXAMINER

NGUYEN, MINH DIEU T

ART UNIT PAPER NUMBER

2137

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/822,459

Applicant(s)

ABE ET AL.

Examiner

Minh Dieu Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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## **DETAILED ACTION**

### ***Response to Amendment***

1. This action is in response to the communication dated February 22, 2005 with the amendments to claims 1-3.

Claims 1-3 are pending.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection. Applicant's arguments focus on the combination of features introduced by the amendment with elements that already existed in the claims. The new material is rendered obvious by Finkestein (5,060,265) and Matsumoto et al. (6,320,829).

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-2 are rejected under 35 U.S.C. 101 because the language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-3 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrase "said PN signal is formed such that the least common multiple of the length of a PN signal cycle and the basic processing unit of said plaintext code has a predetermined large value" is not properly described in the application as filed (page 7, line 11 to page 8, line 2).

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. The term "large" in claims 1-3 is a relative term which renders the claim indefinite. The term "large" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

***Specification***

9. The amendment filed February 22, 2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no

amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "the first bit, the ninth bit and the seventeenth bit take always 0".

Applicant is required to cancel the new matter in the reply to this Office Action.

10. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specifications are not clear on how the least common multiple of the length of a PN signal cycle and the basic processing unit of the plaintext code has a predetermined large value.

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Finkelstein (5,060,265) and further in view of Matsumoto et al. (6,320,829).

a) As to claim 1, Finkelstein discloses a stream enciphering method for generating a crypto code by carrying out exclusive-OR operations between a plaintext code which is a secrecy object and a PN signal (col. 1, lines 29-37; col. 2, lines 17-23; col. 2, line 59 to col. 3, line 17).

Finkelstein does not disclose the PN signal is formed such that the least common multiple length of a PN signal cycle and the basic processing unit of the plaintext code has a predetermined large value.

Matsumoto discloses an encryption/decryption method wherein the least common multiple of two prime factors is calculated and has a predetermined large value (col. 17, lines 1-7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the use of generating a least common multiple of the length of a PN signal cycle and the basic processing unit of the plaintext code having a predetermined large value in the system of Finkelstein, as Matsumoto discloses so as to strengthen security of the plaintext information.

b) As to claim 2, Finkelstein discloses a deciphering method for deciphering a crypto code to a plaintext code which is a secrecy object, the crypto code being enciphered by a stream enciphering method for generating the crypto code by carrying out exclusive-OR operations between the plaintext code and a PN signal being formed such that the least common multiple length of a PN signal cycle and the basic processing unit of the plaintext code has a predetermined large value.

Finkelstein does not disclose the PN signal is formed such that the least common multiple length of a PN signal cycle and the basic processing unit of the plaintext code has a predetermined large value.

Matsumoto discloses an encryption/decryption method wherein the least common multiple of two prime factors is calculated and has a predetermined large value (col. 17, lines 1-7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the use of generating a least common multiple of the length of a PN signal cycle and the basic processing unit of the plaintext code having a predetermined large value in the system of Finkelstein, as Matsumoto discloses so as to strengthen security of the plaintext information.

c) As to claim 3, Finkelstein discloses a crypto communication system constituted so as to be capable of achieving crypto communication between a transmitter side and a receiver side, wherein the transmitter side comprises: a plaintext storage means for storing a plaintext code which is a secrecy object by each basic processing unit (col. 3, lines 29-56); a transmitter side PN signal storage means for storing a PN signal (col. 3, lines 1-28); an enciphering means for generating a crypto code by carrying out exclusive-OR operations between the plaintext code stored in the plaintext storage means and the PN signal stored in the transmitter side PN signal storage means; and a transmitting means for transmitting the crypto code generated by the enciphering means to the receiver side (col. 1, lines 29-37; col. 2, lines 17-23; col. 2, line 59 to col. 3, line 17) and the receiver side comprises a receiving means for receiving the crypto code transmitted from the transmitting means; a cipher text storage means for storing the crypto code received by the receiving means by each basic processing unit; a receiver side PN signal storage means for storing a same PN signal

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as the PN signal stored in the transmitter side PN signal storage means; and a deciphering means for deciphering the crypto code to an original plaintext code by carrying out exclusive-OR operations by obtaining synchronism between the crypto code stored in the cipher text storage means and the PN signal stored in the receiver side PN signal storage means (col. 1, lines 29-37; col. 2, lines 17-23; col. 2, line 59 to col. 3, line 17).

Finkelstein does not disclose the PN signal is formed such that the least common multiple length of a PN signal cycle and the basic processing unit of the plaintext code has a predetermined large value.

Matsumoto discloses an encryption/decryption method wherein the least common multiple of two prime factors is calculated and has a predetermined large value (col. 17, lines 1-7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the use of generating a least common multiple of the length of a PN signal cycle and the basic processing unit of the plaintext code having a predetermined large value in the system of Finkelstein, as Matsumoto discloses so as to strengthen security of the plaintext information.

### ***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP



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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dieu Nguyen whose telephone number is 571-272-3873. The examiner can normally be reached on M-F 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on 571-272-3868. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Minh Dieu Nguyen  
Examiner  
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mdn

5/25/05

A handwritten signature in black ink, appearing to read "Andrew Caldwell". The signature is fluid and cursive, with a large, stylized "A" and "C".

**ANDREW CALDWELL**  
**SUPERVISORY PATENT EXAMINER**